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IN THIS ISSUE . . .

TRY ICE SHOWS FOR INDOOR ACTION	4
<i>by Herbert D. Kynor, Jr.</i>	
WHY NOT MAKE PHOTO FANTASIES?	7
<i>by Joseph Foldes</i>	
NEW BRAUN HOBBY "STANDARD"	8
<i>by Ralph Carroll</i>	
WHAT I LEARNED ABOUT "TYPE R" COLOR PRINTS	10
<i>by Robert Barris</i>	
GET HIGH INTEREST WITH LOW LIGHT	12
<i>by Herbert J. Flatow</i>	
FROST PICTURES	15
<i>by Herbert Weihrich</i>	
WAYS TO BETTER ELECTRONIC FLASH TECHNIQUE	16
<i>by Bob Schwalberg</i>	
SALON SECTION	20
A CLOSE LOOK: THE BELLOWS DEVICE	24
<i>by Norman Rothschild</i>	
BE YOUR OWN WEATHERMAN	28
<i>by Ray Jacobs</i>	
SIDE LEITZ	30



"CHRISTMAS DECORATION"

by Emil Muench

Leica M 3, Summicon 50mm,
f/4 at 1/25th, Daylight Kodachrome,
two #2 blue flood bulbs

"ALPINE RETREAT"

LEFT: by Fayne S. McElroy

Leica IIIc, Summar
f/11 at 1/200th, Plus X, Microdol

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TRY ICE SHOWS FOR INDOOR ACTION



Your Leica Can Stop Motion By Existing Light

Herbert D. Kynor, Jr.

Blairstown, N. J.

Capturing action indoors at ice shows is really quite simple—even if you have no flash equipment. While you're enjoying an evening of entertainment, you can at the same time come home with several film magazines full of interesting pictures.

Colorful ice shows visit every part of the country each year. When you hear of one scheduled to appear in your locality, contact the management of the arena, explaining that you would like to photograph the show, giving the date you wish to attend, and mentioning the approximate location of the seats you want. Nine times out of ten you'll meet with ready cooperation, and for a cost equivalent to good theater seats, you've got your tickets to an evening of real camera fun. And this is one camera excursion your wife will enjoy just as much as you do.

While the managers of most arenas will gladly cooperate with you, you must do nothing while taking pictures that might disturb the spectators around you, or the skaters themselves. This is where using your Leica will pay off! Over the past several years I've shot the famous Hollywood Ice Review with everything from press cameras to reflexes, and have always found that my "little Leica" gets the best pictures with the least fuss. Consequently, I now use it exclusively for ice show action photos.

Its small size makes it admirable for working right from your seat (never leave your seat to take pictures, for to do so will almost certainly close the door to pictures next year). Its 36-exposure capacity eliminates the need to change film frequently. With larger roll film cameras this seems to happen just as the best picture possibilities pop up in front of you.

Every ice show employs experts to create dramatic lighting effects for each number. Why destroy their excellent lighting with a flashbulb? The existing light might be too dim at times to work with other cameras, but your fast Leica lens will thrive on it!

Working without flash will give you the best possible results and will also pave the way to ready cooperation from the management. Not only do flash bulbs annoy the audience around you, but they might also temporarily blind a skater. And you don't want to take the slightest chance of causing an accident. But if you *do* use flash, remember that as the show progresses, the increasing haze or smoke in the arena is going to bounce more and more light back into your lens. Flash shots taken toward the end of the show will almost look as if the film had been fogged.

Planning Ahead

With seat location in mind, ice show photographs can be divided into two categories: (1) shots of the stars, and (2) shots of production numbers where the whole cast is spread out.

If you want to concentrate on shots of the individual stars, which I personally find to be the most rewarding, you'll want a seat on the edge of the ice, in the very first row. Don't settle for the second row if you can help it, or you'll spend most of the evening dodging the heads in front of you! I try to get front row seats midway on either side of the ice, or slightly toward the stage area (which is a good spot to get close-ups of the stars as they enter, and as they later take their bows). Even if you can only get seats at the far end of the arena



FROM THE CENTER of the ice, 90mm. lens plucks a sizable image of Barbara Ann Scott. A front row seat is best for "star" shots. You can handle shots of the big production numbers best from several rows off the ice. IIIIf, 90mm. Elmar, $f/4$ at $1/500$ th, Plus-X in Promicrol.

away from the stage area, don't give up, for the ice show producer has planned the show so that patrons seated down at that end are treated to many action sequences.

The production numbers, where most of the cast is on the ice at once, are best taken from several rows off the ice. The distance enables you to include more in your picture area, and the height gives you a much better angle.

Once you arrive at the arena, place everything you won't need in your gadget bag, and store it out of the way under your seat. Slip your extra lenses, in their compact plastic cases, in one of your coat pockets, where they will be handy. In your other coat pocket put extra film. Once the show starts, things will be happening too fast to pull out the gadget bag and hunt for them. Don't forget to put an extra lens case in your pocket to accommodate the lens on your camera. And, include a lens shade for each lens.

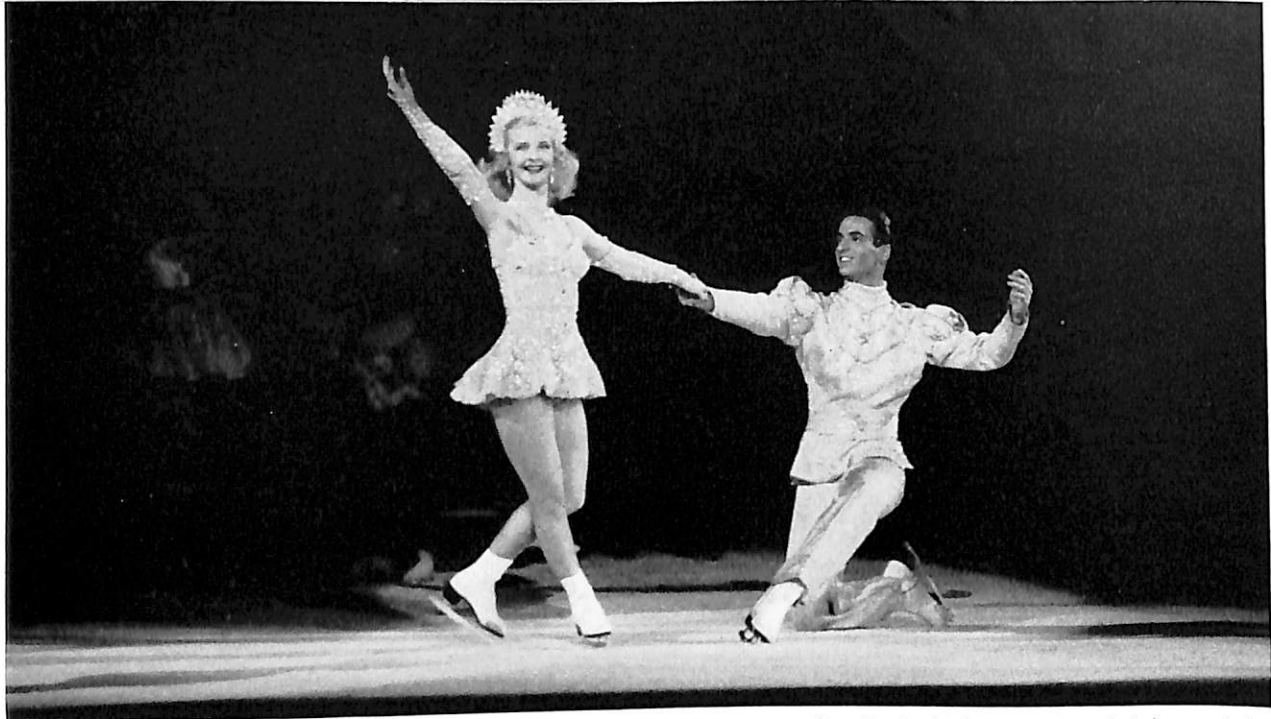
Trial-focus your Leica on different parts of the skating area and study the depth of field obtained at the wider lens openings. Measure the distance to the near edge and far edge of the ice with your rangefinder. Knowing these distances, compute the distance to the center of the ice. Then make mental notes of the three distances so you can quickly focus on them later by simply setting the scale on your lens. If you are in the front row, focus on a few chips or marks on the ice around you, to predetermine some of your close-up distances. Once the show starts, the spotlights will be everywhere on the ice except where you want them. And it's quite a chore to focus on an empty section of ice with little or no light on it, in anticipation of action about to occur there.

Techniques

To focus on a skater as she speeds by is quite a trick. One helpful stunt I often use with my Leica IIIIf when stars are skating all over the ice at high speeds is to follow them with the range finder instead of the viewfinder, keeping the lens focused on them as they skate. I find I rarely miss a shot when I use the rangefinder to center the subject in the camera. At ordinary distances I find I have plenty of negative around the image of the skater when making the print. You can't do this with the rangefinder of every camera, but it works well with the Leica! If you are using the new M 3, the combined rangefinder and viewfinder enables you to have your cake and eat it too!

In taking ice show photographs, I use two lenses, the 50mm. Summicron $f/2$, and the 90mm. Elmar $f/4$. The 90mm. lens is on the camera most of the time, and I find that roughly 85% of my shots are taken with it. For individual star shots, it provides just the field I need. The 50mm. lens comes into use when I know there is a production number coming up. I carry a small pen light flashlight in my pocket, which proves very useful for checking camera settings and the program.

After you've taken photos of an ice show or two, you'll rapidly get onto the knack of estimating your exposure, even with the varied lighting. One thing that you must guard against is overexposure, odd as it may seem! But those follow-spots are bright, and often as not hit the skaters from the back or the sides. The resulting contrasts can be tremendous! You will have to determine the exposures best suited to your own working techniques, but as a guide, here are the basic settings



POWERFUL SPOTLIGHTS can even pose overexposure problems sometimes, says author. Notebook of exposure records helps you judge conditions in future shooting and prefocusing helps you catch peak action easily. IIIf, 90mm. Elmar, f/4 at 1/200th, Plus-X in Promicrol.

I use in two popular eastern arenas:

Madison Square Garden

Individual star numbers	1/500th at f/4 to f/5.6
Production numbers	1/100th to 1/200th at f/4 to f/2

The Arena, Philadelphia

Individual star numbers	1/200th at f/4 to f/5.6
Production numbers	1/50th to 1/100th at f/4 to f/2

Right after the show, make notes of the exposures used, and after processing the film, compare

your negatives with your notes. This is the fastest and best way to "hit it on the button" next year. I keep this exposure information in a notebook, and a few moments spent with these notes the night before I'm going to photograph a show tells me more about what exposures to use than all of the exposure guides in the world.

I use Plus-X film developed for 12 to 14 minutes in Promicrol at 68°F. (the latter time when lighting wasn't so good, and action was rapid, necessitating higher shutter speeds). As yet I haven't run sufficient tests with Tri-X, but from preliminary findings I believe it should give me another stop or two of speed.

NOT STROBE, but a high shutter speed "froze" the flying water droplets in this remarkable stop-action shot by existing light. Author expects that Tri-X film will permit an even smaller aperture with increased depth of field. IIIf, 90mm. Elmar, f/4 at 1/500th, Plus-X.





Imagination

And Electronic Flash

Make Off-Beat Pictures

WHY NOT MAKE PHOTO FANTASIES?

Joseph Foldes

St. Petersburg, Fla.

If you're the kind of photographer who would just as soon be indoors when the snow is knee-deep outside, why not try a few "photo fantasies"? They are a wonderful exercise in imagination, and the answer to the search for "different" subject matter.

The tools are simple—your Leica, the Bellows Device and Visoflex, the 135mm. Hektor lens, and electronic flash. Plus a water tumbler and an eye dropper. The subject matter is simple, too—milk and dyed water.

To make the "split-second sculptures" you see here (the ones with the marbled effect), I dropped milk into black water and shot the reaction with electronic flash. The flash duration was about 1/1000th second.

The "drawing" of the spinster was made by dropping black water (dyed with dime-store fabric dye) into clear water. The result was printed upside down to produce the picture.

Accurate focus is important, since you will be working close in, with shallow depth of field. I focused on the dropper held in the water halfway between the near and far edges of the glass. To allow for unpredictable splash patterns, I closed down to f/32 for the greatest depth of field.

Since the Bellows was racked out, I checked the necessary exposure increase indicated on the scale of the rack. It was nearly two times. And since I could not change the exposure time of the electronic flash, I had to compensate by figuring that my effective aperture was close to f/64—about f/60. From this, I got my lamp-to-subject distance.

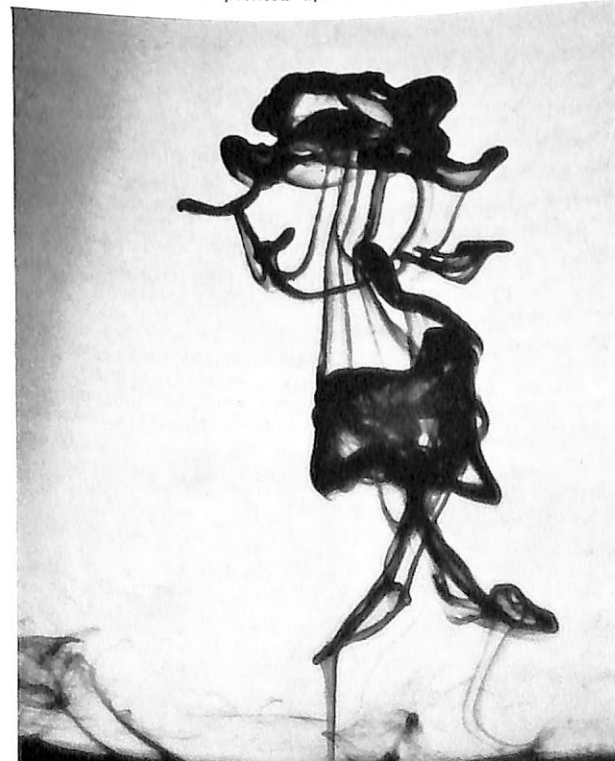
With Plus-X film and Microdol, my speed lights have a guide number of 120. To soften the light, I used plastic bowl covers (which also cut the light in half) over the reflectors. By placing the lights one foot from the subject, I balanced them for my effective aperture of f/60 (1 foot divided into 120 and divided by 2).

To time the flash exposure to the pattern formation, I found that if I pressed the release just when the drops of colored water left the eye dropper, the exposure occurred when the drops hit the water.



CURTAIN CALL. Milk dropped into dyed water gives the effect of marble. Note graceful draping of the "skirt" of the "actress."

SPINSTER IN A HURRY. Pattern of black-dyed water dropped into clear water and printed upside down made this "sketch."





Little Newcomer Does A Big Job

BRAUN HOBBY "STANDARD"

Ralph Carroll

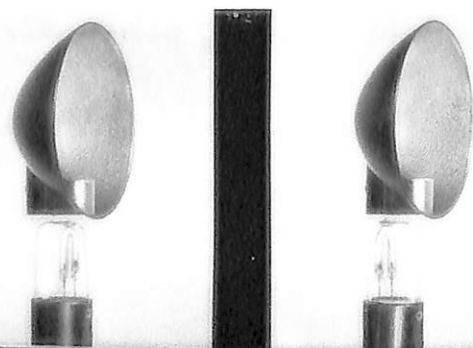
New York, N. Y.

The Braun Hobby "Standard" is a brand-new lightweight portable speedlight, tailored especially to the requirements of the occasional user of flash lighting, to whom tremendous light output and rapid recycling are relatively unimportant. A companion unit to the larger Hobby "100," the "Standard" combines lower initial cost and greater operating economy with most of the larger unit's outstanding features. Among these are the focusing reflector for adjusting light output to normal or wide-angle beams, and an unparalleled power-pack versatility. And the "Standard's" power-pack is only 7 3/4" x 5 3/4" x 3".

The Hobby "Standard" has a flash duration of approximately 1/1000th of a second, with a color temperature of 5600° Kelvin—a close approximation of average sunlight. This makes filters unnecessary with Daylight Type color films.

The 60 watt-second input of the "Standard" is more than adequate for normal photographic purposes, primarily because of very efficient reflector design. The guide numbers that may be used with various popular films are shown in the following table. In practice, these figures are divided by the shooting distance to determine the proper f/stop.

VARIABLE LIGHT BEAM is a unique feature of Braun Hobby units, including the "Standard." Left, flash tube is in position for a normal 50 degree beam. Right, turning flash tube holder through 180 degrees and reversing the reflector produces 70 degree beam which gives even coverage without hotspots for wide-angle work.



GUIDE NUMBERS FOR BRAUN HOBBY "STANDARD"

Tests made with "D" cell dry batteries and A.C. power unit. Figures determined for 50° normal-angle beam. For 70° wide-angle beam give one stop extra exposure.

Film	Approx. Guide Nos.	Processing
Kodachrome, Daylight Type	30 to 35	By Eastman Kodak.
Ansochrome, Daylight Type	50 to 56	Standard ASA 32 processing.
Ektachrome, Daylight Type	50 to 56	Standard ASA 32 processing.
Kodak Tri-X	160 to 220	12 minutes D-76, 12 to 14 minutes Promicrol, 13 to 15 minutes Microphen, 12 to 13 minutes D-23.
Kodak Plus-X (New emulsion rated at ASA 80 daylight, 64 tungsten)	110 to 160	Same as above.
Anso Supreme	100 to 140	Same as above.
Adox KB-21	100 to 140	Same as above, but no D-23.
Adox KB-17	80 to 110	10 to 12 minutes FR X-22; for lower contrast same time in Promicrol.
Adox KB-14	56 to 80	2 to 3 minutes less time, same developers as above.

Three Power Sources

Three interchangeable power sources which may be used with the "Standard's" one power-pack are: expendable dry batteries, a rechargeable storage battery or A.C. line current. As far as we can determine, this versatility is an exclusive feature of the Braun Hobby "Standard" and BH-100 models.

The dry battery power supply used by the Hobby "Standard" consists of 3 high-amperage photo-flash service "D" cells which cost about sixty cents per set and provide a minimum of at least 50 and a possible maximum of several hundred flashes. The rated recycle time between flashes is about 15 seconds. However, in our tests we found our sample unit returning to full charge with the neon ready-light blinking steadily in about 10 to 12 seconds with fresh American-made cells.

A.C. operation of the "Standard" is facilitated by a two-way voltage selector switch which permits operation at 110 to 130 or 220 to 245 volts. This is of particular interest to travelers outside of the U. S. where higher voltages are the rule. On A.C., our test unit again recycled much faster than the manufacturer's rated 15 seconds, recharging consistently in 10 seconds.

The third optional power source is a rechargeable spill-proof storage battery. Fully charged, this storage cell gives approximately 200 flashes. Recycle time with the storage battery is about 12 to 15 seconds.

Getting Maximum Dry Cell Life

Because of widespread interest in dry battery operation, let's consider some of the factors which enter into the shelf and shot life of the "Standard's" "D" cell power-pack. The minimum rating

of 50 shots given by the manufacturer assumes continued use with few rest periods. In practice, however, you can easily multiply this figure four to six times by the following procedures:

(1) When five to ten flashes are made in rapid succession, giving the unit a ten to fifteen minute break will help obtain maximum cell life. What happens is that a gas forms inside the dry cells when they deliver a lot of energy to the capacitors. This gas collects around the positive pole causing internal resistance which saps battery energy and eventually causes its demise. A chemical depolarizing agent within the cell requires time to dissipate this gas and restore normal battery vim and vigor. When the neon ready-light on the Braun Hobby unit indicates approximately 50 percent longer recycle time, take the dry cells out of service for recuperation.

(2) When speedlight units like the Hobby "Standard" are not used for about a week or more, a temporary chemical change occurs within the electrolytic capacitor. This change is called *deforming*. In effect it consists of internal short-circuiting which prevents the capacitors from building up the high voltages needed to fire the flashtube. All the capacitor needs to bring it back to its normal condition is a brief workout in which the unit is charged and discharged about half a dozen or so times. If a fresh set of "D" cells is placed in a "Standard" while the capacitors are deformed, the reforming process may consume as much as 50 percent of the battery's theoretical maximum life. Therefore, it is best to do your reforming with A.C. line current. So, when the unit has been out of operation for about a week, plug it into A.C. current (according to the instruction book), wait about 30 to 60 seconds, and then make a series of flashes by means of the manual flasher button located on the cylinder of the flash-head. And always repeat this process before putting a new set of "D" cells into the unit, just to be safe.

These two rules for preserving maximum dry-cell shot life also apply when using the wet storage battery. A deformed capacitor can consume a great many of the 200 flashes obtainable from the fully charged wet-cell.

(3) The charging cartridge which replaces the Hobby "Standard's" vibrator when the storage cell is being recharged, may also be used to extend the life of "D" cells. This is not, however, to be confused with real *recharging* (an attribute of storage cells only), and is generally referred to technically as dry-cell rejuvenation. When the dry-cells are being rejuvenated, the "Standard's" power-pack feeds direct current into the "D" cells, helping to restore the chemical balance in the cell.

The method of rejuvenating the "D" cells in the Hobby "Standard" is quite simple. The power-pack cover is opened and the vibrator is gently

pulled out of its keyed socket and replaced by the charging cartridge. (Incidentally, this charging cartridge is available as an accessory even if you do not purchase the storage battery.) The voltage selector is set to "110" for U.S. line voltage, and the A.C. power cord is run out of the case. The cover is now replaced, the cord plugged into any A.C. outlet, and the underside selector switch set at the white dot position.

Never rejuvenate for more than *two hours*. More than this will do no good, and there is a *strong* possibility that the dry cells may be badly damaged. Periodic rejuvenation of your three-cell setup will greatly extend its useful life. Theoretically, there should be a maximum of approximately nine months or 300 flashes, whichever occurs first.

One last word of warning: *After rejuvenation, remember to remove the charger cartridge and replace the vibrator before flashing the unit.*

Variable Light Beam

The arrangement provided for changing the Hobby "Standard's" light output from a normal beam coverage of 50° to a wide-angle beam spread of 70° is one of its most valuable features. With the beam set at the 70° position, it is possible to make pictures with wide-angle lenses that have even corner-to-corner illumination over the entire negative. When we use this wide-angle beam, we are taking the same light output and stretching it over a wider area. For this reason we must give one stop more exposure than we would use with the 50° beam spread. This wide-angle light beam may also be used with lenses of any focal length to reduce the light output of the unit. For example, with Tri-X film, a light-to-camera distance of five feet requires an exposure at f/32 with the 50° beam position, and even this is very likely to be overexposed. If we switch to the 70° beam position, we can now shoot at f/22 or f/32, with less fear of overexposure. (See "Ways To Better Electronic Flash Technique," p. 16.)

The Hobby "Standard" is an extremely light weight unit. It is an extremely strong, safe, and dependable speedlight. Its light output, in terms of actually attainable flash guide numbers, is equal to, or very slightly greater than, that of similarly powered competitive units. By including in the Hobby "Standard" almost all of the outstanding features of the professional-caliber Hobby "100," the makers have created a medium-power speedlight with unmatched versatility. Not the least of its virtues are the very honestly conservative claims made by its manufacturer. Their accuracy leads this reporter to suspect that photographers and engineers played a larger part in their formulation than did the ad men.

WHAT I LEARNED ABOUT **TYPE R** COLOR PRINTS

An Early Report On A New Eastman Color Material

Robert Barris

Rochester, N. Y.

Ever since the recent availability of Kodak Color Print Material Type R, my wife has been a dark-room widow. Come on into my darkroom and let's go through the entire print-making procedure—this time without any “goofs” and with full benefit of my 20-20 hindsight!

Equipment

First of all, not much additional equipment is needed over what is normally found in any reasonably well-equipped darkroom to make the Type R (for Reversal) color prints from your favorite color transparencies. Although you could process the prints in trays, the developers would oxidize rapidly, I was told. So, I sprang for a new set of six 3½-gallon capacity, hard-rubber processing tanks. These tanks, a Wratten 2-D Filter (for absorbing ultraviolet illumination), a blue heat-absorbing glass (in lieu of a No. 301 Infrared Absorbing Filter which is not available at the moment), and a fairly complete set of color compensating filters were the extra items that were required. Your darkroom, sink, enlarger, and other miscellaneous printing equipment will all come in handy too—without alteration. And, I also bought a half-a-dozen 8"x10" x-ray-film type processing hangers—the kind with the clip in each of the four corners for holding the film (paper in this case) taut, so that it would not sag against a neighboring sheet in the processing tanks. These hangers were especially recommended for the Type R printing material. The paper, incidentally, does not fit in 8"x10" film developing hangers, and even if trimmed down, might pop out during processing.

By the way, when buying processing chemicals, be sure to ask for the Kodak Color Processing Kit for *Process P-111*. For some reason, it doesn't say “Type R” on the outside carton of the processing



ORDINARY HANGERS used for x-ray film are suggested for processing Kodak Type R Color Print Material because clips hold paper flat. Stainless steel x-ray film type tanks can also be used.

chemicals. But these are the ones you'll need. It is important, by the way, not to contaminate any of the solutions with each other. Small quantities of the fixing chemicals particularly, in either of the developers or stop baths, will impair print quality.

I had expected that color printing would be quite expensive. But at about 40 cents for an 8"x10" sheet of color paper, I felt I couldn't go far wrong. Incidentally, store the paper in your refrigerator until you use it. The recommended storage temperature is about 50°F. or lower.

Starting To Print

My enlarger is an ordinary so-called condenser type with the No. 212 G.E. Photo Enlarger Lamp operating at approximately 115 volts, as recommended. The enlarger is outfitted with a piece of bluish heat-absorbing glass, and over the lens is the Kodak Wratten No. 2-D Ultraviolet Absorbing Filter. Both these filters (including the heat-absorbing glass) are really necessary for best color print quality. They help confine the exposing light to only the visible portion of the spectrum.

One more thing about filters in the light beam: the color paper package may have stamped on the outside a suggested filtration, such as, a CC-10Y plus a CC-05Y. These filters, whatever they may be, should be added even before making a test exposure. You probably won't get perfect color balance on the first trial print. But, this filtration will help to yield normal balance with this particular color paper emulsion. You will still have to find out how your own equipment will influence the balance in addition.

We now face the problem of exposure determination. This paper is quite slow for projection printing purposes. With a four-times enlargement at f/5.6, the exposure time for a normal density transparency is about 2½ minutes. But actually,

it would be extremely difficult with this paper (which has a critical exposure latitude) to guess at the exposure for a perfect print on the first attempt. A test strip method can save you a lot of wasted time and material.

After my limited experience with this material, I suggest that you make this "get-acquainted-with-the-material" trial exposure (on a full 8"x10" sheet) in one-stop sets, making the exposure differences by time rather than by diaphragm. Thus, a fourth of the paper should get, for example, a 30-second exposure, another strip should receive one minute, a third two minutes, and the rest four minutes. Complete drying before evaluating the print is very necessary, since the wet print has a milky opalescence which disappears on drying.

Color Balance

Using a full sheet of 8"x10" paper for this first trial exposure will give you some idea of the color balance of the eventual print. Even with a fairly normal transparency and the filters suggested on the package of color print material, you will probably want to make some further adjustment in the color quality of the exposing light source.

Adjust the color quality of the print only after making a test print, drying it, and then *viewing it under the illumination of the same color quality as that you will use to view the final print.*

Now, at this point, it's easy to make a mistake through enthusiasm for your first color print. So, pretend, if you can, that the print was made by someone else. Ask yourself what's wrong with it.

Probably the color balance will have to be adjusted for best results, and here is where the color compensating filters come in. For example, if the overall color balance of the print is blue, look at the print through a yellow color compensating filter. Or, if the overall color balance of the print is red, then view through cyan filter. In other words, use the complementary of the color in excess to view the test print.

It is vitally important *not* to lay the filter down in contact with the print. This will double the effective amount of filtration. Instead, hold the filter up away from the print so that the light goes through the filter only once. In viewing the test print, try filters of various densities or various combinations of densities and colors until you feel that you have the right effect. Don't watch the lightest highlights too carefully nor the deepest shadows. The effect of the filter may not be truly representative in these areas, because it will tint the highlights excessively and not have sufficient effect in the shadows. Try to educate your eye to evaluate the filter situation *in the middle tone areas only*. If the print has any gray area, it will be excellent as a guide for filter correction.

The next and obvious step is to add the viewing filters to the enlarger light system by means of a filter holder placed, most conveniently, in front of the enlarger lens. But, remember that, as you add filters to the exposure beam, you must increase the exposure time. For each .10 density added, add one-third the original time required for the unfiltered test print. This is rather easy to determine, since the Kodak Color Compensating Filters come in six different densities for each of the six different primary colors: red, green, blue, cyan, magenta, and yellow.

One Step At A Time

Should you "shoot the works" at this time and make a dozen duplicate prints (assuming you want that many) with the calculated exposure time and "guestimated" filtration? Definitely not! But the next time around, maybe yes. Remember, this is your "get-acquainted" session with the Kodak Color Print Material Type R. And, like any new and fairly complex procedure, it takes getting used to before you go ahead with a quantity run.

From the imaginative photographer's standpoint, the process adapts to various control techniques. For example, I'm familiarizing myself with dodging methods wherein *darkening* of a print corner would be obtained by partially shielding that area from the exposing light. On the other hand, to *lighten* any given area, it must be locally printed in — just the opposite from conventional black-and-white printing! But remember, we are dealing with a *reversal* process. Next on my control program will be the use of dodgers made out of color compensating filter gelatin for unusual or pictorial effects.

Spotting and retouching the color prints is a snap. Just use the complementary color in dye form on the spot that you would like to subdue; magenta dye will neutralize a greenish spot, etc.; either Kodak Flexichrome Dyes or Dye Transfer Dyes can be used for spotting Type R color prints.

And that's what I've discovered so far about Type R print material. It's brand-new, it's fun, and it looks good. So, I'm heading back to the dark-room for a little more experience with it. A new set of slides just came back and I can hardly wait. . .

Suggested Equipment

- 6 3½-gallon processing tanks
- ½ dozen 8"x10" x-ray-type film developing hangers
- 1 Color Processing Kit
- 1 package of Type R paper
- 1 Wratten 2-D Filter (for absorbing unwanted ultraviolet radiation)
- 1 bluish heat-absorbing glass (nearly any commercially available bluish-colored heat-absorbing glass normally used for enlargers or slide projectors can be used to absorb the infrared radiation of a tungsten light source)
- A fairly complete set of color compensating filters.



GET HIGH INTEREST WITH LOW LIGHT

**Dramatic
Lighting Is
Ready-Made
In Night Shots**

Herbert J. Flatow
Brooklyn, N. Y.

Few subjects are so ideal for photography as the world after sundown. Night's black mantle absorbs harsh details and presents an exciting spectacle of dazzling lights against dark masses.

Going out into the streets after dark to shoot pictures is always a thrilling adventure. Load your camera with a fast panchromatic film and bring along your tripod, lens shade, extra film, cable release, notebook and pencil, and a flashlight. And I often take an umbrella along . . . just in case. . .

Street scenes, when viewed at night will open up new horizons for your camera. As you see people at night coming out of the theatre, spilling into the streets, their faces will take on a different meaning from that they have by day. The people will become silhouetted against brightly illuminated signs, shop windows, flood-lit buildings. These same people in the street photographed in the rain, snow or mists, will provide still different pictures and moods.

The night is filled with light sources, but most of us are not used to thinking of them as suitable for picture making. You have seen dozens of shots taken under theatre marquees, or in front of brightly illuminated store windows. But these are only the most obvious places to look for night pictures. We think in terms of our normal daylight lens aperture and shutter speeds, in terms of arresting the action in front of our lens and of balanced illumination. It is habit to see with our

daytime eye at first. Yet, there is more scope for exposure variety by night than you would dream of in the daytime. What you should try for is to preserve the very character of the night in your pictures.

Study The Night

With experience, you will develop a deep appreciation and understanding of the subtlety of lights at night and the way they differ from daylight in types and intensity. The best starting point, I believe, is to really open your eyes and look at the night or a small facet of it for a long period of time before you attempt your first exposure.

After you have studied your night scene, you must be able to choose an aperture-and-shutter speed combination that will capture the picture. If you feel that you need depth of field, you will have to stop down and use a small aperture and a relatively slow shutter speed. Along with your tripod, of course. If on the other hand, you feel that you want to stop the action in front of the lens, you must be able to pinpoint your focus because you will be using a larger lens opening and thus be forced to sacrifice some depth of field.

After a few trials and errors, you will begin to appreciate the advantages of longer exposures for many types of night shots. And, you will never again think that poor lighting conditions prevent good picture-taking outdoors at night.

At night, you are your own exposure meter. Experience is your only helper so far as exposure is concerned. I have found a meter of little help because most of my intended pictures lived only the instant, and because under most night conditions, the surrounding darkness of the night produces a reading much lower than really necessary.

How do you guess exposure when your meter is of no real value? How much motion can you stop at your slow shutter speeds? Can you expect any depth of field at the wide aperture that you may call upon to work for your picture-taking efforts? Sooner or later you will ask yourself these questions. A good guide to some of the answers is the exposure data for the illustrations for this article.

But nothing will make you an expert at judging exposure outdoors at night but *personal experience* at estimating intensity of light under a variety of circumstances. All anyone can do when taking pictures at night is to guess and keep records of the guess every time. Fortunately, shooting is inexpensive with your Leica, so you can "cover" a good many night shots with several different exposures. Try 5 seconds, 10 seconds, 20 seconds, 40 seconds, possibly even longer if the light is dim; but keep a written record of every shot so that when you have made your print, you will not be flying blind. With this approach, you



REALISM IN ILLUSTRATION. Car headlights alone light this shot author did for a magazine. Since scene depicts an automobile crash about to happen, using other light sources could have killed impact of the picture. IIIf, 50mm. Summicron, f/2.8 at 1/10th, Tri-X.

will soon master shooting outdoors at night.

One of the most attractive situations for night shots outdoors is a rainy evening. Against wet surfaces you can photograph practically anything in the passing scene. A useful device is to include a silhouette in the foreground of the photo. All you have to do is look for areas with strong illumination and watch the ground for patches of light reflections. When a figure moves into that very spot (or the friend you were smart enough to bring along for company) you will come off with your picture. Subjects of this nature can be safely exposed at f/2 to f/5.6 at from 1/10th to 1/50th of a second, depending on the amount of light and whether the ground is wet (reflections add light) or dry.

And, don't overlook the shop windows with their displays of mannequins and various merchandise. Every window display will certainly be different. More and more of our public buildings are being illuminated after dark, and their beauty shown off to greater advantage by powerful lights that flood the structure in a brilliant, soft light.

Fireworks offer some golden opportunities for some interesting pictures. The effect you may want may be that of streams of light with the incidental burst of sparks between the slower-moving shower of colored lights. As you know, the film will not be affected by the dark sky alone. You can open your shutter at will (see p. 30) several

times during the duration to capture successive bursts. Use a tripod for best results, and point your lens towards an unobstructed part of the sky to get a solid background. You should come away with very interesting pictures by merely making several exposures on one frame. A good exposure base is f/11 with the shutter open 1 to 4 seconds. In this way, lightning can also be successfully recorded on film by keeping the camera on "Time" or "Bulb" and pointing in the direction of the flashes in the sky.

Moonlight is another source of night light that can work for you if you study its values. Moonlight by itself is a very weak source of light, so exposure must be increased many more times. You might start with a base of f/8 at about 45 seconds, and make tests at increasing times and apertures. By recording the data of the best negative, you will have a good guide for the future. Fire at night is another source of night illumination that has many possibilities. But, again, you have to experiment. Your best bet is to make silhouette effects of the foreground figures, shrubs, or other masses. A possible base for exposures of fires at night is 1/10th to 1/50th at f/2 to f/4.5. But, again, varied exposures are in order, depending on the size and intensity of the blaze itself.

After you have mastered a feeling for the types of lighting conditions that prevail, you will be able to turn your attention to the development of



PURPOSEFUL BLUR. To catch the swirling action of a skating rink, author deliberately exposed a full second. Slow speeds are a good creative tool if you learn through experiment just when and how to use them to capture moods. IIIf, 50mm. Summicron, f/4 at 1 sec., Tri-X.



TOUCH OF FANTASY was added to this night shot of the New York skyline by using window screen "filter" in front of the lens. Careful printing caught subtle tones. IIIf, 50mm. Summicron, f/11, 20 seconds, Plus-X.



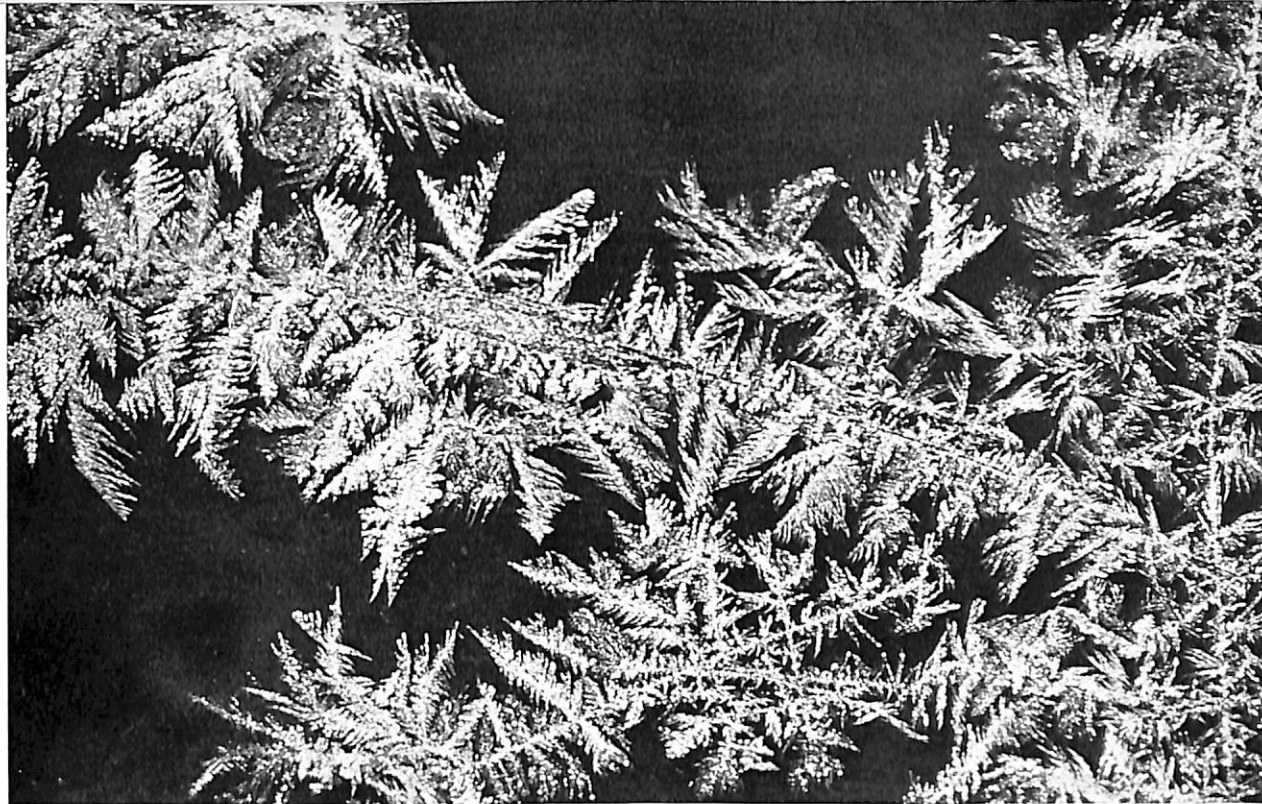
A RED FILTER speeds the fall of night. Dusk shot on Tri-X with filter gives strong contrasts, feeling of night, yet holds detail. IIIf, 50mm. Summicron, f/7 at 1/100th.

"oneness" with your camera. With no unnecessary energy spent on the mechanical aspects of shooting, you will be able to give all your attention to the subject.

You will learn to adjust yourself to the motion of night activities, the motion of crowds, or individual people. The action of possible subject matter outside your field of view is just as important as the people in it. Will a dark knot of people split up into different directions as they come into your

point of view? Will some "lens-louse" take over just before you shoot and jump directly into your intended candid shot? Is some happy citizen going to cross over from left to right and blot out your intended masterpiece? Last but not least—will you have enough patience to withstand it all and try over again?

Are the results worth effort and frequent frustration? I say, "Yes!" Try it yourself and I know you'll agree.



FANTASTIC FOREST. Many forms are assumed by frost crystals. This one suggests a dream-like woodland. IIIf, 135mm. Hektor, Bellows Focusing Device, $\frac{1}{2}$ second at f/22, Daylight Kodachrome.

FROST PICTURES



Winter's Chill Warms This Photographer's Heart

Herbert C. Weihrich Buffalo, N. Y.

On a cold winter morning when the thermometer is near zero don't throw another log on the fire! Instead, grab your camera and invade the cold world outside. There are pictures galore to take and some of the most interesting are of frost crystals.

The most beautiful and varied frost crystals are those that form on window panes. These fairy-like creations, seemingly in imitation of feathers, ferns, trees and starry firmaments, form from water vapor in the air upon surfaces whose temperatures are below freezing.

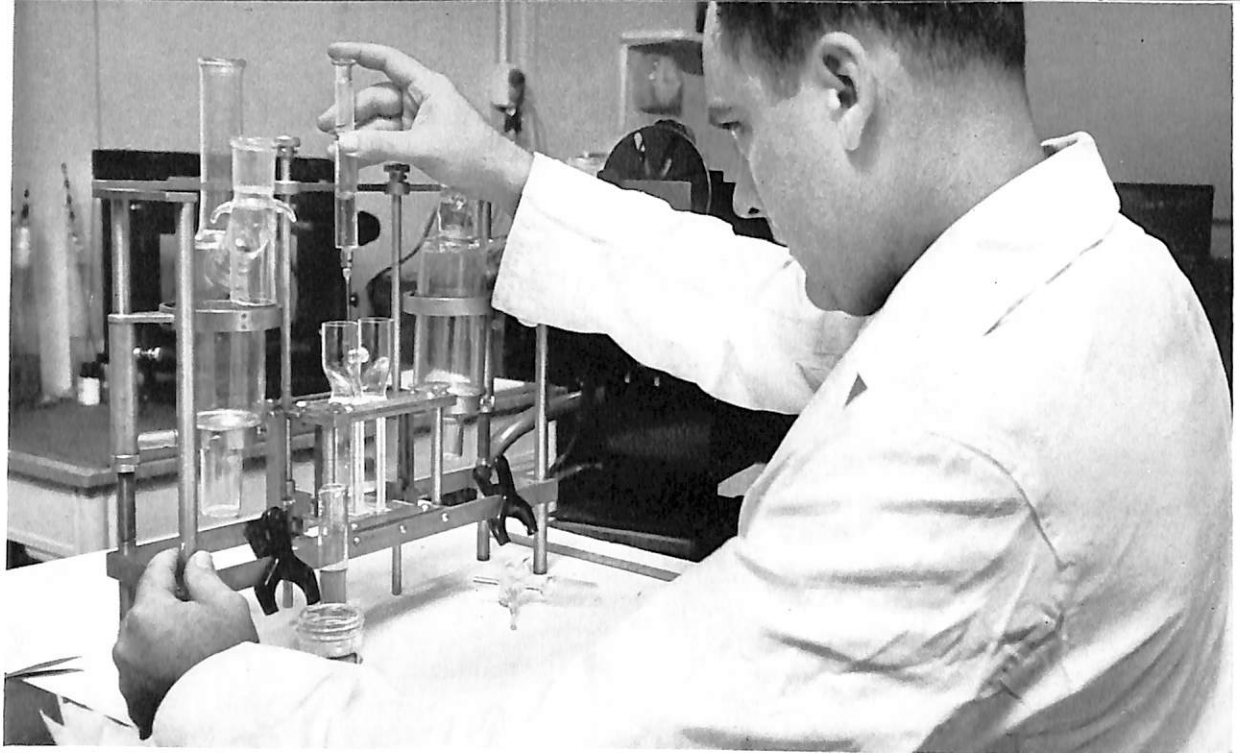
In photographing these frost crystals which have formed on window glass we are freed of the one worry of having our subject move. By mounting our Leica on a sturdy tripod, we can, if necessary, use a slow shutter speed and still be assured of needle-sharp pictures. Providing, of course, that we focus correctly. And there is no better way to focus than by using the Reflex Housing and Bellows Device, or the Focalslide with Extension Tubes. The groundglass of the Reflex Housing or Focalslide is also the ideal means to compose the picture, since we get exactly what we see. And when working with frost crystals, we don't want lines or forms entering into the edges of the picture where they distract from our main pattern.

The equipment I use for photographing frost

crystals consists of the Leica IIIf, Reflex Housing, Bellows Extension, Hektor 135mm. lens, and red flannels!

In determining the exposure I used an incident-light meter, taking a reading of the light falling on the glass panes. After choosing the shutter and lens setting I wanted, I increased the exposure according to the 135mm. scale on the bed of the bellows extension. This increase in exposure is necessary because of the increase in distance between the lens and the film plane when working within inches of the subject. However, to be certain of getting a correctly exposed transparency I bracketed my exposures, taking two additional exposures—one slightly more and one slightly less than the one I estimated. For the window panes which were backlighted, I used the same method of arriving at my exposure.

By having a sturdy tripod for your camera and an immovable subject, you can close your lens down as much as you like and, of course, increase the exposure accordingly in order to get maximum depth. Shooting straight on, the depth of focus wouldn't be needed, but you may, as I did, have to shoot at a slight angle, and this is when the depth is needed. My pictures were shot at shutter speeds ranging from $\frac{1}{60}$ th of a second to a full second.



BOUNCE TECHNIQUE gives a natural, existing-light effect, yet permits small stops with normal-speed films. Practice in judging exposure is the main answer to good bounce shots, but the technique is easier than it sounds. M 3, 50mm. Summicron at f/8, KB-17 in X-22.

WAYS TO BETTER ELECTRONIC FLASH TECHNIQUE

Modern Light Source Has Unique Advantages

Bob Schwalberg

New York, N. Y.

DIRECT FLASH is useful for shots where camera and light must remain mobile, as in press photography. It can add immediacy and urgency, but must be used carefully, since flat light can be dull. M 3, 50mm. Summicron at f/11, Tri-X with Braun Hobby "Standard."



Electronic flash is the fastest-growing artificial light source in photography today. Although conventional wire-filled flashbulbs still lead in total sales to all users of flash, press and magazine photographers now rely overwhelmingly upon portable electronic units. Scientific, technical, medical, and industrial photographers are also turning to this versatile light source. More and more portrait, commercial and fashion studios are switching over, either wholly or in part, to electronic flash. And the advanced amateur is not far behind.

Why Is Electronic Flash So Popular?

Of all the reasons for the popularity of electronic flash, two are undoubtedly most prominent. First—you don't change bulbs after each shot; and second—the cost per flash is fantastically little compared to the cost of expendable flashbulbs. Actually, electronic flash tubes almost never burn out. And unless accidentally damaged, they last the life of the unit. The cost per flash is thus the cost for electrical power, and this varies from an average of less than 1/10th of a cent per flash for A.C. line current operation to approximately 2 cents for high voltage dry cells used in many professional caliber units.

And, electronic flash offers tremendous versatility. The duration of a flash tube discharge is so short—usually about 1/1000th of a second—that almost any rapid action can be “stopped” and camera movement is no problem. The color temperature is an approximation of sunlight, so that you can use Daylight Type color films. And, the very rapid discharge of intense light with high sunlight oriented color temperatures produces what many photographers consider to be the highest possible image quality obtainable today.

Synchronization Of Electronic Flash

Electronic flash synchronization, usually referred to as “X-,” or “Zero-delay” synchronization, is actually a form of open flash. As soon as the camera shutter has opened fully, internal electrical contacts act as a switch to fire the flash, and then the shutter closes. Thus, with focal plane shutters like that of the Leica, we must synchronize at those slower shutter speeds at which the shutter opens completely to give our brief flash duration an unobstructed view of the entire negative area. Of course, because our flash duration is so much shorter than our shutter speed, in normal practice there is no advantage to using any speed except the fastest one at which the shutter opens fully. On the Leica IIIf this is 1/30th of a second; the M 3 Leica synchronizes perfectly at 1/50th.

In *very* bright light this sometimes poses a problem for the focal plane shutter. Assume that

we want to make speedlight pictures in a very brightly lit situation. Our guide number calls for an exposure at $f/4$, and our synchronizing speed is 1/50th of a second. If the light level in the scene is high enough, we could wind up with an unsharp double image—in effect, two exposures on the same negative. The first exposure would be the speedlight at 1/1000th of a second at $f/4$, the second the existing light at 1/50th at $f/4$.

To avoid this, we must be sure that our speedlight exposure is such that the f /aperture and synchronization shutter speed we use will not permit the existing light to register. In most instances, a safety factor of about two f /stops will be sufficient. This means that if we know that the existing light will faintly register with our 1/50th at $f/4$, we must limit our speedlight shooting to exposures at $f/8$ or smaller stops. Our speedlight exposure is, of course, based upon a guide number. So, in effect, what has happened is that we are limited as to the greatest distance from which we can make pictures. If we move in closer, well and good. This will mean smaller diaphragm stops, and greater insurance against ghost images. But if we move further away, we will have to open up our diaphragm past our safety factor, and we may get double images.

This situation is further aggravated when our subject is in rapid motion. But in some cases, when the subject is moving extremely rapidly the ghost image will take the form of a very slight blurring which will not adversely affect the overall sharpness of the picture. Depending upon subject matter, it may even improve the picture by lending force and direction to the action.

As we shall see later, prevention of double images also involves avoiding overdevelopment.

Bounce Light Technique

Bounce light is one of the most popular lighting techniques used by both amateurs and professionals. The idea is to aim the flash reflector not at the subject but at some surface like a wall or ceiling which will bounce the light back to the subject in such a way as to simulate natural lighting effects. The trick is in knowing which aperture to use. Obviously, no guide number or formula can take into account such vital variables as the height of the ceiling, the color of the walls and ceiling, the size of the room or the nature of the subject.

The surprising thing is, however, that so many people employ this technique successfully. The answer is experience. And the best way to gain this experience is to experiment in one room until you get the feel of it. Then move on to another which looks more difficult, and so forth. After this, you will find yourself automatically judging other walls and ceilings in terms of the rooms in which

you've made your tests. And, when you're a little uncertain, you can bracket by making additional exposures with larger or smaller lens openings. In addition to having learned a new lighting technique you can develop the subsidiary hobby of torturing your wife by constantly remarking: "Ah, a real f/so-and-so ceiling," whenever the opportunity arises.

But, remember this about bounce light: even the most experienced professional bouncers aren't always sure of themselves. When in doubt they'll bracket their exposures. Or, when this is not practical, they'll take their chances with somewhat more bounce than they think they need.

Operating Away From The Camera

Many photographers fail to recognize that the speedlight does not have to always be mounted right on the camera or held in the hand. Off-the-camera operation gives more interesting lighting effects and permits easier camera handling and positioning. It is particularly useful in bounce work because once the reflector is positioned for the effect you want, you can forget it.

For off-the-camera operation, the flash heads may be fastened to a tripod or attached to a conventional lightstand. Hanging the power-pack on the tripod or lightstand adds insurance against their being knocked over, and takes the load off your shoulder. The only extra equipment you need is a 20 or 30 foot tripper cord which you can make for yourself out of standard lightweight indoor grade wire. A male plug on one end goes into your flash head, and a female plug on the other accepts the male plug on your standard tripper cord.

Another way to locate your unit away from the camera involves the use of a standard screw-pressure type clamp of the sort which is made for extension flash units. These clamps may be attached to doors, pipes, furniture, and so forth.

The Extra Flash Head

A second flash head is a very useful thing to have, particularly if you do a lot of direct flash shooting and want to get away from the harsh "miner's headlamp" effect of straight on-the-camera flash. But, before it can be used properly, you should understand several facts.

A speedlight unit (such as the Braun Hobby "100," for example) consists basically of a power supply which pours its energy into a gas-filled electronic flash tube. Now, what happens if you have two hungry flash heads on the same power-pack which normally handles only one head?

First, each head will receive half of the full power-pack energy. Thus, in the case of the Hobby "100," which is rated at approximately 100 watt



OFF-CAMERA FLASH adds modeling and thus interest to lighting from just one flash head, Leica M 3, 50mm. Summicron at f/11, KB-17 developed in Neofin Red, Braun Hobby "Standard."

seconds, each head will receive 50 watt seconds. And, there will be another change as well. If one Hobby "100," takes about 1/1000th of a second to discharge the energy poured into one flash tube, two flash tubes will each get rid of half the power-pack energy in half the time it takes a single flash tube to do the job. Therefore, when operating two flash tubes, the flash duration of the Hobby "100" is cut in half. It's now only 1/2000th of a second.

Because of the additional electrical resistance of the extra connecting cord for the second flash tube, which is generally much longer than the cord used for the original head supplied with the unit, as well as because of the somewhat diminished photographic efficiency of the halved flash duration, many photographers add a small amount of exposure by opening the lens up a small part of a stop when using two flash heads with the same power-pack. This is probably a lot more important for color than for black-and-white, although many people assume that these losses will be negligible and make no allowance for them.

If the two Hobby "100" flash heads are used side-by-side to cover a very large area that one head couldn't handle by itself, we can continue to use the same guide numbers that we used when the full watt second input was poured into only one tube. If, however (and this is generally the case), one flash head is serving as the main light and the second is being used as a side light, back light, front light, edge light or what-have-you, a different approach is necessary.

Our exposure must be based upon our main light. Since this is now receiving some 50 watt seconds instead of 100, we must allow one full f/stop greater exposure than is indicated by our guide number for one flash head. The significant distance is the distance between this main light and the subject. No other distance is relevant.

Reducing Excessive Light

With the new faster films, we frequently find ourselves in situations where the light output from our electronic flash is just too much. This

is particularly true at close lamp-to-subject distances where we soon run out of f/stops. At five feet with Tri-X, for example, the 60 watt second Hobby "Standard" will call for an aperture of about f/32 to f/44. But many of our lenses stop down only to f/16, and none go further than f/32.

In this situation, there are a number of ways to reduce light output to achieve proper exposure.

If we are operating off-the-camera, we can simply move the light further back while we keep our five foot shooting distance. Since light falls off as the square of the distance, by doubling our distance we reduce the effectiveness of our light output four times. This means that by moving the light from five feet to ten feet, we will be able to shoot at f/16 instead of f/32. Remember—it isn't the camera distance that counts in figuring flash exposure by the guide number system. Only the flash-reflector-to-subject distance counts.

With both of the Braun Hobby speedlights, a 100% decrease in light output is immediately available when we switch over to the 70° wide-angle reflector beam position. This means that if your exposure with the normal beam is f/8, your new exposure with the wide-angle beam will require one stop more, or f/5.6.

Another expedient involves covering the face of the flash reflector with one or more layers of some translucent material. In my experience, a double thickness of white handkerchief will bring the light down by one full f/stop. Those gray-white plastic icebox dish covers that come with an elastic band provide excellent ready-made flash dimmers and diffusers. Avoid any off-white material when you're shooting color films, however, as it may alter color temperature enough to change color values in the picture.

Processing Electronic Flash Negatives

There is probably no more famous rule in the film processing than the ancient injunction to overdevelop electronic flash negatives "at least 50 percent." Once upon a time, say five to fifteen years ago, this was very good advice. Electronic flash units then employed excessively brief flash durations and inefficient reflector designs which made this rule valid. Another factor was that most speedlight work in the beginning was done with large cameras. Large negatives require more contrast than small ones.

As a procedure for today's relatively long flash duration, high reflector-efficiency units with color temperatures approximating daylight, this rule makes little sense. Of course, before you can say what 50 percent overdevelopment actually means in minutes, you must first decide what "normal" development actually is. In some isolated cases, the developing times used with a few developers

may actually be 50 percent longer than the manufacturer's recommendation. But whenever we've run into this situation, it has always turned out that the same photographers actually use the same, or very similar, immersion times for their non-electronic flash work as well.

What this boils down to, is that if you develop your electronic flash negatives 50 percent longer than you do your standard negatives, chances are you're overdeveloping. With speedlight negatives, overdevelopment means a lot more than simply excessive grain and contrast. It means double-crossing the speedlight and undermining its potentially first-class negative quality.

For many years, photographers have recognized that with electronic flash the same cameras, lenses, films, and developers give extra-sharp negatives with subtle middle-tone gradation. The scientific theory commonly accepted to explain this phenomenon states that for some reason very brief flashes of intense highly actinic light seems to make developable only those light-sensitive silver halide crystals which lie on or near the surface of the emulsion. The first effect of overdevelopment is to develop crystals further down inside the emulsion which did not receive enough exposure to be developable with normal immersion times. This is very similar in effect to the irradiation which occurs within normal-thickness emulsions, and which has been a topic of discussion since the introduction of the thin-emulsion Adox films.

The second effect of overdeveloping speedlight negatives is the development of "ghost" or "double" images and reduction of the speedlight's action-stopping power. Remember that our shutter exposure is longer than our electronic flash exposure. So, the more intensely illuminated areas in the picture in many cases receive some exposure, however minimal it may be. If we overdevelop, we are actually keying our development not so much to the speedlight as to these bright highlight areas. And if we succeed in developing them, we automatically lose sharpness.

So, electronic flash negatives should be fully developed for the contrast you need, but not overdeveloped. Most professionals today either use their normal developing times for their electronic flash work, or add a minute or two for slightly more snap. Guide numbers should be worked out accordingly. As a matter of fact, when professionals run their own guide number tests, they almost invariably base their final results on the best exposures obtained with their normal immersion time for the film and developer involved.

If, in your opinion, you cannot obtain sufficiently high negative contrast without overdevelopment, it is likely that your problem stems from overexposure. A guide number test going to higher guides might be very profitable in this case.

SALON SECTION



Wide, Wide World by Ben Brown, New York, N. Y. IIIf, 50mm. Summitar f/2, f/8 at 1/25th.

Wild Geese by Campbell H. Steketee, Grand Rapids, Mich. IIIf, 135mm. Hektor f/4.5, f/11 at 1/200th, light yellow filter.

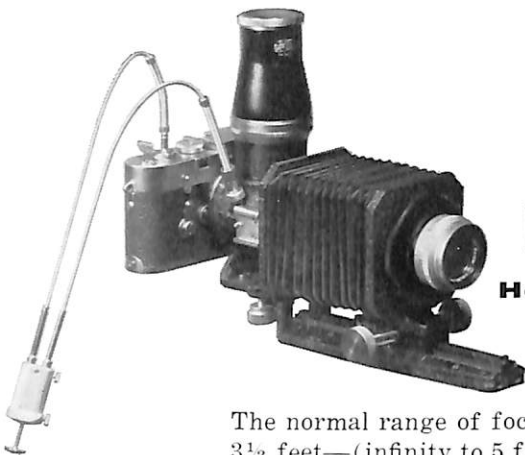




Coals To Newcastle by Ivan Massar, Pittsburgh, Pa.
III f, 50mm. Summicron f/2, f/5.6 at 1/100th.

Refinery Reflections by Edward Gray, Buffalo, N. Y.
III f, 90mm. Elmar f/4, f/4 at 1 second.





A CLOSE LOOK: THE BELLOWS DEVICE

How To Use This Versatile Accessory

Norman Rothschild

New York, N. Y.

The normal range of focus of the Leica's coupled rangefinder—infinity to 3½ feet—(infinity to 5 feet with the 135mm. Hektor) is adequate for most everyday needs.

But often it's nice to get closer to the objects you want to photograph. Perhaps you want to copy an old photograph, or make an extreme close-up of a flower. Or maybe you just want to make close-ups for the fun of it—to explore that new world in which insects appear as monsters and common objects reveal new and interesting textures and secrets. It's easy with the Leica, because there are several close-up accessories to help you do the job.

This article explains how to use the Leitz Bellows Focusing Device with the Focalslide and Visoflex. Combined with these two, it is the most versatile tool for general close-up photography with your Leica. In a future article, we will deal more with picture-taking, discussing such problems as lighting, film choice and exposure.

Special Needs Of Close-Ups

Focusing the Leica lens is accomplished by varying the distance of the lens from the film. The further the lens is moved away from the film (i.e., the greater the extension) the closer you can get to your subject and get a sharp picture. (Look at your Leica from above and note the relative positions when the lens is set at infinity and when focused on 3½ feet.)

The normal focusing range offered by Leica lens mounts is adequate for most ordinary assignments. But for special close-up work, we must provide extra extension between film and lens.

This extra extension can be gained with rigid extension tubes, or with a bellows such as the Leitz Bellows Focusing Device.

Extension tubes, while relatively inexpensive, are not as convenient as a bellows for general use. However, tubes are often used in certain close-up devices that operate at fixed distances, or have a limited range. These include the Leitz BOOWU, BEHOO, and BELUN.

The Bellows Device provides you with a continuous variety of extensions simply by turning a focusing knob. Extreme versatility is its outstanding feature. With proper combinations of lenses and simple lens adapters you can shoot pictures at infinity, make your image the same size as your subject or even magnify it on the negative. (With the 35mm. Summaron lens this amounts to over 4x with the Focalslide and over 6x with the Visoflex.)

When the Bellows Device is used between the camera and lens, the coupled rangefinder is no longer needed. Nor will the finders used for ordinary work tell you what will be in the picture. Parallax is too great at close working distances. To focus and compose your picture properly, you will need the Focalslide or Visoflex. Both these devices give you a parallax-free image on a fine groundglass screen. Here you can check composition, sharpness, and depth of field. The image you see is the actual one cast by the Leica lens. You see the image in the Focalslide upside down; in the Visoflex it is right side up, but laterally reversed.



The Focaslide

The Focaslide has two stages or platforms, the upper of which slides to and fro. On this upper platform are mounted the Leica camera body over an opening, and a groundglass screen. The underside of the groundglass is in the same plane as the film in the camera. The Bellows Device, with the desired lens in it, is fastened to the lower platform underneath an opening.

In use, the groundglass screen is first positioned over the lens for focusing and composing. After setting diaphragm and shutter, the camera is slid into position and the exposure made.

The Visoflex

The Visoflex (called a "reflex housing" by some) converts your Leica into an efficient single-lens reflex camera. In this device, a mirror placed at a 45 degree angle to the Leica lens reflects its image onto a fine groundglass screen. The picture is made by swinging the mirror out of the way of the lens and releasing the shutter. A special double cable release (or a Release Coupling—Ed.) does both these operations in one rapid motion. After the exposure is made the mirror automatically returns to the 45 degree position.

A button at the side of the Visoflex lets you rotate your Leica to either a vertical or horizontal picture-making position, without having to turn the Visoflex and Bellows on its side. Changing the camera position from horizontal to vertical, or vice versa, rotates a mask underneath the groundglass so that it shows the proper format.

Focaslide or Visoflex?

The Focaslide is best suited to the photography of inanimate subjects. This includes such work as copying and photography of medical, biological, scientific and criminological specimens. The Focaslide is also valuable for still life and commercial photographs. And when used with the 90mm. Elmar lens in proper adapter it can be used for infinity landscape shots and for portraits. The Focaslide can also be used to take pictures of animate objects which can be restricted to a narrow area and kept within the zone of sharp focus.

The Focaslide must always be used on a tripod or other rigid support.

The Visoflex is capable of handling all the subjects listed for the Focaslide. But it is better suited than the latter for the photography of animate objects, since you can see the image on the groundglass right up to the moment of exposure. Thus, you can keep a moving insect, for instance, in focus and check its position on the groundglass until you are ready to make the shot.

The Visoflex is also used to focus the 125mm. f/2.5 Hektor, the 200mm. f/4.5 and 400mm. f/5 Telyt lenses. The last are especially valuable for making "close-ups" of inaccessible subject matter.

For sharpest results, use the Visoflex and Bellows Focusing Device on a tripod or other support. With care and experience, however, you can make hand-held shots with the Visoflex.

Attaching The Focaslide

The Focaslide may be used with Leica models with interchangeable screw-mounting lenses.

To mount the camera, lay the Focaslide on a table or workbench with the groundglass at your left. Next, place the Leica with its base plate (bottom) facing you on the upper platform next to the groundglass so that its opening engages the flange around the opening in the upper sliding platform. Next, swing the "H-shaped" clamp into position over the Leica body. The "H" should appear upright at this point. Finally, depress the spring-loaded knurled nut and secure it by giving it a quarter turn to the left or right.

To attach the Bellows Focusing Device to the Focaslide, place the bellows on a table in an upright position with the rear platform facing you.

The Focaslide is fastened to the bellows by means of the shorter (right hand) tripod screw. This will engage the right hand tripod socket of the Focaslide. (The right hand socket is the one that is not centered under the groundglass.)

To the left of the Focaslide groundglass is a chrome-plated sliding latch. This should be in the lower position. To remove the upper sliding platform, move the latch to the upper position by lifting and pushing on the milled nut. You may want to remove the upper platform in order to clean grit or dirt out of the track or to observe the taking lens.

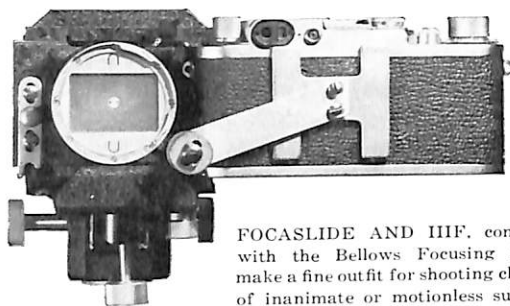
Attaching The Visoflex

The Visoflex attaches to the Leica in the same manner as a Leica lens. There are separate models for the Leicas with screw-thread mounted lenses and for the M 3 which takes bayonet-mounted lenses. The Visoflex for screw-threaded Leicas can be used with any models except the A, B and M 3.

Mounting The Visoflex On The Bellows

Place the Visoflex with its front (the part through which you can see the mirror surface) against the rear opening of the Bellows Device. Secure the Visoflex to the Bellows by engaging its tripod socket with the longer (left hand) tripod screw.

A Leitz Ball-and-Socket Tripod head between



FOCASLIDE AND HIF, combined with the Bellows Focusing Device make a fine outfit for shooting closeups of inanimate or motionless subjects.

the Bellows and tripod will help you get any desired angle. You can attach it to the tripod socket under the track of the Bellows. The large Ball Socket is recommended because of the extra weight of the equipment.

Use Of Valoy II Upright And Carrying Arm

The Bellows Device combined with either a Focaslide or a Visoflex and mounted on the carrying arm of the Valoy II enlarger makes an excellent copying outfit.

To fasten the Bellows Focusing Device to the carrying arm of the Valoy II, you will need Adapters (Catalog Numbers 16,600 and 16,706). Adapter #16,600 will also fit other Leitz accessory carrying arms which fit Focomat enlargers, and Leitz or other make enlargers whose upright has a diameter of 32mm. or 40mm.

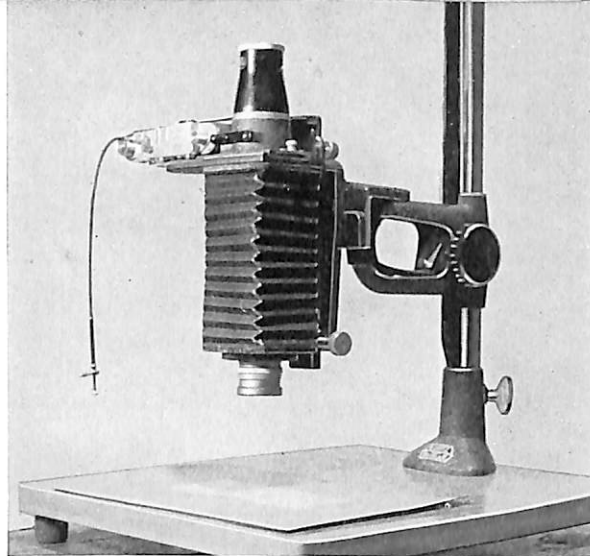
To mount the Bellows on enlarger uprights, the adapter plate should first be fastened to the carrying arm by means of the two screws provided. Make sure at this point, that the pins in the carrying arm engage the corresponding holes in the adapter plate properly. This ensures that the film and lens planes will be absolutely parallel to the baseboard.

Next, engage the tripod socket in the Bellows Device with the milled tripod screw of the adapter plate. The two pins in the adapter plate will engage corresponding holes in the base of the Bellows Device, ensuring that the whole assembly will be absolutely perpendicular to the baseboard.

Engraved Scales

Two sets of scales are engraved on the focusing track of the Bellows Device. With the front, or lens end, of the device facing you, the scale for use with 5cm. (50mm.) lenses is on your left. The one on the right is for use with 13.5cm. (135mm.) lenses.

The scale for 5cm. (50mm.) lenses applies only to their use with the Focaslide. The 50mm. lenses should be used with special adapters (#16,595 for the Elmar, #16,597 for the Summitar) that engage the rear bayonet fitting of the tube locking mechanism when the lenses are collapsed. The scale does not apply to bayonet-mounting lenses whose adapter #16,596 takes them fully extended.



A COPYING OUTFIT is easily made by mounting Focaslide and Bellows on Leitz enlarger upright, using the proper adapters.

The scale for the 13.5cm. (135mm.) lenses applies only when the lens elements of the 135mm. Hektor f/4.5 are used in combination with the Visoflex, and are mounted on the bellows with adapter ring #16,570, UOOST.

Scale Of Reproduction

The white numbers of the scales represent how large the image on the film will be as compared to the dimensions of the original subject. Thus, a white number 0.5 means that the image will be 0.5 the subject size or one-half as long as the subject in all dimensions. For instance, a flower 1 inch in diameter will photograph as an image $\frac{1}{2}$ inch wide on the film. A white number 2, on the other hand, means that the dimensions of the subject will be enlarged 2 diameters on the film. Thus an insect $\frac{1}{2}$ inch long will appear 1 inch long on the film.

Exposure Compensation

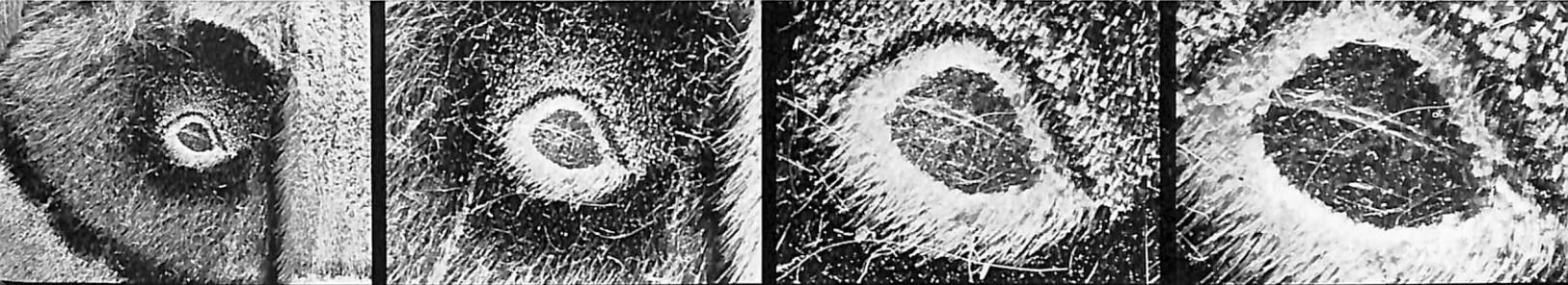
For Extra Bellows Extension

The red numbers represent the amount of increase of exposure you will have to give because of the extra long bellows extension. Thus, if your pointer stops opposite the red number marked 4x and your Leica-Meter reads f/11 at 1/100, you should increase your exposure to 1/25 sec. (You could also open up two stops to f/5.6 provided depth of field would be sufficient.)

Provided the exposure factor is not too large, you can also compensate by dividing the Exposure Index of your film by the red number factor. In this manner your Leica-Meter will read direct.

Other Lenses On The Visoflex And Focaslide

Data for lenses other than the ones just described will be found in the instruction folder that comes with the Bellows Focusing Device. (If you don't have one, send for circular #8621.)



135mm. Hektor, 1:1 magnification

90mm. Elmar, 2.0:1 magnification

50mm. Elmar, 4.2:1 magnification

35mm. Summaron, 6.2:1 magnification

FURRY SUBJECT taken with Bellows and Visoflex is actually a butterfly wing. All pictures taken with an M3, two #1 floods in reflectors at two feet on the new Adox KB-17, developed in FR X-22.

The following table gives exposure increases for various magnifications:

0.5	2x	2.0	9x	4.0	24x
1.0	4x	2.5	12x	5.0	35x
1.5	6x	3.0	16x	6.0	50x
		3.5	20x		

For magnifications that do not exactly correspond to those in the table, choose the nearest figure. Figures midway between the above may be interpolated for roughly correct results (i.e., 4.5x magnification requires roughly 30x exposure increase).

Accessories Needed To Fit Various Lenses To The Bellows Focusing Device

FOR USE WITH VISOFLEX

Lens	Scales of Reproduction	Adapters
135mm. Hektor lens elements only	Infinity to 1.0	16,570 (which is 16,590 plus extension tube 16,580)
35mm. f/3.5 Summaron	2.36 to 6.2	16,590
All 50mm. lenses in the extended position	1.60 to 4.20	16,590
90mm. f/4 Elmar in focusing mount	0.93 to 2.43	16,590
90mm. f/4 Elmar lens elements only	0.5 to 2.01	16,590 and extension tube 16,585

FOR USE WITH FOCASLIDE

50mm. f/3.5 Elmar in collapsed position*	0.05 to 2.5	16,595 bayonet adapter ring
50mm. f/2 Summaron in collapsed position	0.05 to 2.5	16,597 bayonet adapter ring
35mm. f/3.5 Summaron	1.07 to 4.66	16,590
All 50mm. lenses in the extended position	0.73 to 3.16	16,590
90mm. f/4 Elmar lens elements only	Infinity to 1.41	16,590 and extension tube 16,585
90mm. f/4 Elmar in focusing mount	0.42 to 1.83	16,590

*When the Elmar 50mm. f/3.5 is in the collapsed position in this ring it is somewhat difficult to get at and see the diaphragm stops. But the Diaphragm Adjusting Ring 16,620 VALOO solves this problem. This indicates settings by click stops which are also visible from the side. It also acts as a lens hood. It is also useful when using the Elmar for enlarging.

Depth of Field

A popular misconception about lenses is that shorter focal length objectives *always* have an inherently greater depth of field than lenses of longer focus. This statement is true when both types of lens are used to take a picture from the same point of view. Then the image from the

shorter lens will have greater depth of field.

But, if we were to move the camera with the shorter lens close enough to the subject so that the image size is equal to that produced by the longer lens, then we would find the depth of field to be identical—provided also that such things as required degree of sharpness and relative aperture were the same also.

Therefore, focal length is actually not a factor in calculating depth of field except when pictures are to be taken with two lenses of different focal length from the same point of view. The factors of importance are:

- (1) Image size (reproduction ratio).
- (2) Degree of sharpness (circle of confusion).
- (3) Relative aperture (f/ number).

The depth of field table on the last page of the instruction folder accompanying your Bellows Focusing Device is based on the above three factors.

Focusing Aids

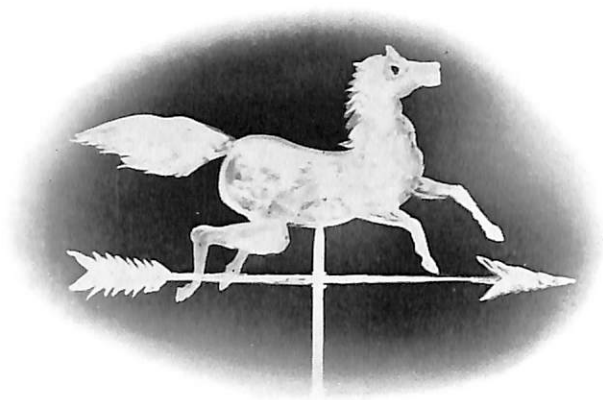
To help you observe and focus the images on the groundglass of the Focaslide and Visoflex, there are several types of magnifier. All magnifiers adjust for individual eyesight.

The Wide-Field Magnifier (5x), #16,625, normally supplied with the Visoflex, permits you to see the entire image on the groundglass at one glance. It can be used with either the Visoflex or Focaslide, the same as the Standard model #16,624.

The Wide-Field 45° Magnifier, #16,725, is for use with the Visoflex. It permits eye-level operation and is very useful for hand-held shots. (Incidentally, an excellent speed camera is the Visoflex plus 125mm. f/2.5 Hektor and the Wide-Field 45° Magnifier. See Fall 1955 LEICA PHOTOGRAPHY, "Shooting With A New Big Gun" by Mike Tatem.)

The 90° Wide-Field Magnifier (5x), #16,715, is useful when it is necessary to view the image from an angle. One such time is when the groundglass of the Focaslide is high up on the column of the Valoy II or other enlarger.

The 30x Magnifier, #16,720, is used to focus the aerial image seen in the clear spot of the Focaslide. This method assures critical focus. It is useful at extra-large reproduction ratios and when the Focaslide is used to check the image from a microscope.



BE YOUR OWN WEATHERMAN

Darkroom Know-How Makes Snow Fall In July

Ray Jacobs

New York, N. Y.

These days you can make your own weather in the darkroom. I have found that the wide contrast range of Varigam paper plus a complete set of ten filters give me print control that, when properly employed, can completely alter the nature of a photograph.

For instance, look at the landscape with horses taken in northern Canada. The day was extremely bright with beautiful cumulus clouds above. I had no yellow filter with me yet wanted the clouds in the photograph. Previous experience taught me that the high contrast between sky and ground would prevent the clouds from printing through. This is illustrated in Fig. 1 which was enlarged through a #5 filter (normal contrast). However, by using a lower contrast filter, I brought out the clouds without dodging (Fig. 2). By going even lower in contrast and slightly increasing the exposure time in the enlarger (Fig. 3) the day took on a much more somber appearance. The clouds became much more foreboding.

And now consider the three different qualities obtained from the same negative in the Central Park photographs. Fig. 4 represents the actual condition of the day at noon. Fig. 6 was printed through a #2 filter (very low contrast). The day became much drearier and it appeared to be approaching nightfall. It has a completely different mood. Yet look what happened in Fig. 5. A high contrast filter was used and the print was quickly pulled out of the developer. The weather has changed and it has begun to snow!

Naturally, you can overdo darkroom magic and make it an end in itself. And that would deny the wonderful properties of the photographic medium. But you can add to the esthetic quality of your pictures if you learn a few techniques and use them with restraint. The greatest single characteristic of any art is control—and photography is no exception.

But darkroom skills come only with practice and experiment. Now that the darkroom season is here again, why not take a few of last Summer's negatives and try a little "magic" on them? You *could* make a prize-winner out of an ordinary shot. And even if you don't, I guarantee you'll have fun trying!



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5

Fig. 6



SIDE LEITZ



Double Exposures. Herb Flatow's article on Night Photography (p. 12) mentions taking several shots of fireworks on the same frame.

Although your Leica is designed to prevent *accidental* double exposures, you can, when necessary, make them. Here's how:

With the M 3: (only if critical registration is not needed)

(1) Lift up the rewind knob and turn it counter-clockwise to take up possible slack in the film. Then hold the rewind knob in place by gripping it with index finger and thumb of your left hand.

(2) Turn the rewind lever (above the self-timer) to position "R" and hold it down in that position with the middle finger of your right hand.

(3) Now wind on your film with the usual two strokes of the advancing lever.

You may now make your second exposure on the same frame—or recover the frame that has been inadvertently "exposed" with the lens cap on the lens.

With the IIIf:

(1) Depress the shutter release button and while holding it down, turn the fast shutter speed dial counterclockwise as far as it will go, but without lifting it up. Then take your finger tip off the release button before letting go of the dial. The camera is now ready for a second exposure. And you may, of course, change your shutter speed if you wish, just as in normal procedure.

Another Language. When a movie-maker says, "Kill the baby," don't phone the police. All he's asking is that you turn off a small spotlight. And Leica owners who also shoot movies can now learn the other special terms in the vocabulary of motion pictures from a special issue of the Journal of the University Film Producers Association. The Summer 1955 issue of the Journal contains over 400 terms used in the production of 16mm. nontheatrical motion pictures together with their definitions. Seems there are so many people interested in this type of photography that a unified vocabulary is becoming a "must." Copies of this special issue are available at 50¢ each (40¢ in lots of 50) from the U.F.P.A. Television Center, University of Iowa, Iowa City, Iowa.

More Top Prizes To Leica Users.

It's not exactly news when Leica shots take top prizes. But it is interesting to see how steadily they appear among the winners. In the PSA-Life Magazine Photo-Essay Contest, for instance, we know definitely that four of the prize-winning essays were taken all or in part with Leicas. We

didn't get a chance to check with each prize-winner and it may be that others were Leica-users, too. Subject matter varied from night shots by moonlight and motion studies of birds in flight (both in color), to regular black-and-white narrative-type picture stories.

Another recent award for a Leica shot went to Tom Subject, staffer for Criss Cross, employee publication of a large Nebraska life insurance company. Tom's shot of a youngster wincing his way through a Salk vaccination took top honors for black-and-white pictures at the annual Society of Associated Industrial Editors convention.

Correction: X-22. If you noticed a difference between the times given in the Time-Temperature Chart and the printed information on X-22 in the next column on page 11 of our Summer issue, you're right. We were redfaced to discover that, in preparing art work on the Time-Temperature Chart, the developer symbols were scrambled.

As printed, the order of the curves from top to bottom is KB-14, KB-17, and KB-21. Actually, the top-to-bottom order *should* be KB-21, KB-14, and KB-17. The Time-Temperature curves were based on a gamma of 0.5.

And, you may have noticed that KB-14 calls for longer development than KB-17 on the charts, even though KB-14 has more inherent contrast. But there's no mistake here. The developer dilution is greater for KB-14 than KB-17.

Hold It, Please!



You mean the 15 in the 15:1 developer mixture is supposed to be the water?

Gesare by Peter H. Buckley, New York, N. Y. Leica IIIf, 90mm. Elmar f/11 at 1/100th on Plus X.





This Christmas—the best!

There's nothing like a Leica...

if you are determined to give the best: a camera that will do everything expected of it—and more. Leica is camera craftsmanship at its finest: superior optics, ingenious design, ultra-precise engineering. A Leica's superiority is further distinguished by its ease of operation, proven reliability, and rugged endurance.

a. Leica M-3

The ultimate in camera design. All the Leica features of versatility, plus:

- Combined rangefinder-viewfinder with unique bright-line frame for interchangeable lenses
- Precision quick-change lens mount
- Lever for rapid film advance
- Shutter-coupled light meter
- Automatic-setting exposure counter
- Complete flash synchronization
- Shutter speeds from 1 to 1/1000 second and bulb

b. Leica III f

The aristocrat of the 35mm field. Completely versatile, rugged and precise. Among its features:

- Interchangeable lenses
- Built-in coupled rangefinder
- Complete flash synchronization
- Shutter speeds from 1 to 1/1000 second, time and bulb
- Exposure counter
- Delayed-action shutter release

c. Leica II f

A remarkably low-priced Leica. The II f is identical with the III f except for the extra-slow shutter speeds and the delayed-action timer. Designed for ease and simplicity of operation. Among its features:

- Built-in rangefinder
- Shutter speeds from 1/25 to 1/1000 second, time and bulb
- Complete flash synchronization

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